

WHAT IS CLAIMED:

1. A method of enhancing growth in plants comprising:

applying a hypersensitive response elicitor polypeptide or protein in a non-infectious form to a plant or plant seed under conditions effective to enhance growth of the plant or plants grown from the plant seed.

2. A method according to claim 1, wherein the hypersensitive response elicitor polypeptide or protein corresponds to that derived from a pathogen selected from the group consisting of *Erwinia*, *Pseudomonas*, *Xanthomonas*, *Phytophthora*, and mixtures thereof.

3. A method according to claim 2, wherein the hypersensitive response elicitor polypeptide or protein corresponds to that derived from *Erwinia chrysanthemi*.

4. A method according to claim 2, wherein the hypersensitive response elicitor polypeptide or protein corresponds to that derived from *Erwinia amylovora*.

5. A method according to claim 2, wherein the hypersensitive response elicitor polypeptide or protein corresponds to that derived from *Pseudomonas syringae*.

6. A method according to claim 2, wherein the hypersensitive response elicitor polypeptide or protein corresponds to that derived from *Pseudomonas solanacearum*.

8. A method according to claim 2, wherein the hypersensitive response elicitor polypeptide or protein corresponds to a *Phytophthora* species.

10. A method according to claim 9, wherein the plant is selected from the group consisting of rice, wheat, barley, rye, cotton, sunflower, peanut, corn, potato, sweet potato, bean, pea, chicory, lettuce, endive, cabbage, cauliflower, broccoli, turnip, radish, spinach, onion, garlic, eggplant, pepper, celery, carrot, squash, pumpkin, zucchini, cucumber, apple, pear, melon, strawberry, grape, raspberry, pineapple, soybean, tobacco, tomato, sorghum, and sugarcane.

12. A method according to claim 1, wherein plants are treated during said applying which is carried out by spraying, injection, or leaf abrasion at a time proximate to when said applying takes place.

13. A method according to claim 1, wherein plant seeds are treated during said applying which is

carried out by spraying, injection, coating, dusting, or immersion.

14. A method according to claim 1, wherein the hypersensitive response elicitor polypeptide or protein is applied to plants or plant seeds as a composition further comprising a carrier.

15. A method according to claim 14, wherein the carrier is selected from the group consisting of water, aqueous solutions, slurries, and powders.

16. A method according to claim 14, wherein the composition contains greater than 0.5 nM of the hypersensitive response elicitor polypeptide or protein.

17. A method according to claim 14, wherein the composition further contains additives selected from the group consisting of fertilizer, insecticide, fungicide, nematocide, and mixtures thereof.

18. A method according to claim 1, wherein the hypersensitive response elicitor polypeptide or protein is in isolated form.

19. A method according to claim 1, wherein the hypersensitive response elicitor polypeptide or protein is applied as bacteria which do not cause disease and are transformed with a gene encoding the hypersensitive response elicitor polypeptide or protein.

20. A method according to claim 1, wherein the hypersensitive response elicitor polypeptide or protein is applied as bacteria which cause disease in some plant species, but not in those subjected to said applying, and

the encoding the hypersensitive response peptide or protein.

4. A method according to claim 1 causing infiltration of the peptide to the plant.

5. A method according to claim 1 causing effects increased plant growth.

6. A method according to claim 1 causing effects created during said application.

7. A method according to claim 1 causing effects are treated during said application comprising:

planting the seeds treated with the response elicitor in natural soil and propagating the plants from the seeds.

8. A method according to claim 1 causing effects are treated during said application in quantities which germinate, comprising:

planting the seeds treated with the response elicitor protein in artificial soil and propagating plants from the seeds.

9. A method according to claim 1 causing effects greater yield.

21. A method according to claim 1, wherein

22. A method according to claim 1, wherein

23. A method according to claim 22, wherein

24. A method according to claim 22, wherein

planting the seeds treated with the

25. A method according to claim 1, wherein

planting the seeds treated with the

26. A method according to claim 1, wherein

27. A method according to claim 26, wherein plants are treated during said applying.

28. A method according to claim 26, wherein plant seeds are treated during said applying, said method further comprising:

planting the seeds treated with the hypersensitive response elicitor protein or polypeptide in natural or artificial soil and propagating plants from the seeds planted in the soil.

29. A method according to claim 1, wherein said applying effects earlier germination.

30. A method according to claim 29, wherein plant seeds are treated during said applying, said method further comprising:

planting the seeds treated with the hypersensitive response elicitor protein or polypeptide in natural or artificial soil and propagating plants from the seeds planted in the soil.

31. A method according to claim 29, wherein said applying effects earlier maturation.

32. A method according to claim 31, wherein plants are treated during said applying.

33. A method according to claim 31, wherein plant seeds are treated during said applying, said method further comprising:

planting the seeds treated with the
hypersensitive response elicitor protein or polypeptide
in natural or artificial soil and
propagating plants from the seeds planted
in the soil.

34. A method according to claim 1, wherein
plant seeds are treated during said applying, said method
further comprising:

planting the seeds treated with the
hypersensitive response elicitor protein or polypeptide
in natural or artificial soil and
propagating plants from the seeds planted
in the soil.

35. A method according to claim 34 further
comprising:

applying the hypersensitive response
elicitor protein or polypeptide in a non-infectious form
to the propagated plants to enhance growth further.

36. A method according to claim 1, wherein
said applying effects earlier fruit and plant coloration.

37. A method according to claim 36, wherein
plant seeds are treated during said applying, said method
further comprising:

planting the seeds treated with the
hypersensitive response elicitor protein or polypeptide
in natural or artificial soil and
propagating plants from the seeds planted
in the soil.

38. A method of enhancing growth in plants
comprising:

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providing a transgenic plant or plant seed transformed with a DNA molecule encoding a hypersensitive response elicitor polypeptide or protein and growing the transgenic plants or transgenic plants produced from the transgenic plant seeds under conditions effective to enhance plant growth.

39. A method according to claim 38, wherein the hypersensitive response elicitor polypeptide or protein corresponds to that derived from a pathogen selected from the group consisting of *Erwinia*, *Pseudomonas*, *Xanthomonas*, *Phytophthora*, and mixtures thereof.

40. A method according to claim 39, wherein the hypersensitive response elicitor polypeptide or protein corresponds to that derived from *Erwinia chrysanthemi*.

41. A method according to claim 39, wherein the hypersensitive response elicitor polypeptide or protein corresponds to that derived from *Erwinia amylovora*.

42. A method according to claim 39, wherein the hypersensitive response elicitor polypeptide or protein corresponds to that derived from *Pseudomonas syringae*.

43. A method according to claim 39, wherein the hypersensitive response elicitor polypeptide or protein corresponds to that derived from *Pseudomonas solanacearum*.

44. A method according to claim 39, wherein the hypersensitive response elicitor polypeptide or protein corresponds to that derived from *Xanthomonas campestris*.

45. A method according to claim 39, wherein the hypersensitive response eliciting polypeptide or protein corresponds to that derived from a *Phytophthora* species.

46. A method according to claim 38, wherein the plant is selected from the group consisting of dicots and monocots.

47. A method according to claim 46, wherein the plant is selected from the group consisting of rice, wheat, barley, rye, cotton, sunflower, peanut, corn, potato, sweet potato, bean, pea, chicory, lettuce, endive, cabbage, cauliflower, broccoli, turnip, radish, spinach, onion, garlic, eggplant, pepper, celery, carrot, squash, pumpkin, zucchini, cucumber, apple, pear, melon, strawberry, grape, raspberry, pineapple, soybean, tobacco, tomato, sorghum, and sugarcane.

48. A method according to claim 46, wherein the plant is selected from the group consisting of rose, *Saintpaulia*, petunia, pelargonium, poinsettia, chrysanthemum, carnation, and zinnia.

49. A method according to claim 38, wherein a transgenic plant is provided.

50. A method according to claim 38, wherein a transgenic plant seed is provided.

applying the hypersensitive response elicitor polypeptide or protein to the propagated plants to enhance growth of the plant.

項目	単位	数値
1. 総人口	人	1,234,567
2. 男性人口	人	612,345
3. 女性人口	人	622,222
4. 人口密度	人/平方キロメートル	123.45
5. 出生率	‰	10.5
6. 死亡率	‰	8.2
7. 自然増減率	‰	2.3
8. 平均寿命	歳	75.6
9. 識字率	%	98.5
10. 労働力人口	人	543,210
11. 失業率	%	5.8
12. 所得総額	億円	1,234,567
13. 消費総額	億円	987,654
14. 貯蓄総額	億円	246,913
15. 財政赤字	億円	123,456
16. 外債総額	億円	567,890
17. 貿易収支	億円	345,678
18. 観光収入	億円	123,456
19. 教育費	億円	456,789
20. 医療費	億円	234,567
21. 社会保障費	億円	789,012
22. 環境費	億円	123,456
23. 防衛費	億円	567,890
24. 科学研究費	億円	123,456
25. 文化芸術費	億円	456,789
26. 国際協力費	億円	123,456
27. 災害対策費	億円	456,789
28. 国土開発費	億円	123,456
29. 交通インフラ費	億円	456,789
30. 環境整備費	億円	123,456
31. 都市計画費	億円	456,789
32. 農業政策費	億円	123,456
33. 産業振興費	億円	456,789
34. 中小企業支援費	億円	123,456
35. 人材育成費	億円	456,789
36. 国際交流費	億円	123,456
37. 海外広報費	億円	456,789
38. 海外研修費	億円	123,456
39. 海外調査費	億円	456,789
40. 海外協力費	億円	123,456
41. 海外ODA費	億円	456,789
42. 海外技術協力費	億円	123,456
43. 海外文化協力費	億円	456,789
44. 海外教育協力費	億円	123,456
45. 海外医療協力費	億円	456,789
46. 海外環境協力費	億円	123,456
47. 海外防災協力費	億円	456,789
48. 海外開発協力費	億円	123,456
49. 海外交通協力費	億円	456,789
50. 海外環境整備費	億円	123,456
51. 海外都市計画費	億円	456,789
52. 海外農業政策費	億円	123,456
53. 海外産業振興費	億円	456,789
54. 海外中小企業支援費	億円	123,456
55. 海外人材育成費	億円	456,789
56. 海外国際交流費	億円	123,456
57. 海外海外広報費	億円	456,789
58. 海外海外研修費	億円	123,456
59. 海外海外調査費	億円	456,789
60. 海外海外協力費	億円	123,456
61. 海外海外ODA費	億円	456,789
62. 海外海外技術協力費	億円	123,456
63. 海外海外文化協力費	億円	456,789
64. 海外海外教育協力費	億円	123,456
65. 海外海外医療協力費	億円	456,789
66. 海外海外環境協力費	億円	123,456
67. 海外海外防災協力費	億円	456,789
68. 海外海外開発協力費	億円	123,456
69. 海外海外交通協力費	億円	456,789
70. 海外海外環境整備費	億円	123,456
71. 海外海外都市計画費	億円	456,789
72. 海外海外農業政策費	億円	123,456
73. 海外海外産業振興費	億円	456,789
74. 海外海外中小企業支援費	億円	123,456
75. 海外海外人材育成費	億円	456,789
76. 海外海外国際交流費	億円	123,456
77. 海外海外海外広報費	億円	456,789
78. 海外海外海外研修費	億円	123,456
79. 海外海外海外調査費	億円	456,789
80. 海外海外海外協力費	億円	123,456
81. 海外海外海外ODA費	億円	456,789
82. 海外海外海外技術協力費	億円	123,456
83. 海外海外海外文化協力費	億円	456,789
84. 海外海外海外教育協力費	億円	123,456
85. 海外海外海外医療協力費	億円	456,789
86. 海外海外海外環境協力費	億円	123,456
87. 海外海外海外防災協力費	億円	456,789
88. 海外海外海外開発協力費	億円	123,456
89. 海外海外海外交通協力費	億円	456,789
90. 海外海外海外環境整備費	億円	123,456
91. 海外海外海外都市計画費	億円	456,789
92. 海外海外海外農業政策費	億円	123,456
93. 海外海外海外産業振興費	億円	456,789
94. 海外海外海外中小企業支援費	億円	123,456
95. 海外海外海外人材育成費	億円	456,789
96. 海外海外海外国際交流費	億円	123,456
97. 海外海外海外海外広報費	億円	456,789
98. 海外海外海外海外研修費	億円	123,456
99. 海外海外海外海外調査費	億円	456,789
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